CLASSCOPY! DO NOT WRITE ON!

CW 89: Linear Functions

**Geometry**

Can you determine that any of these functions are nonlinear just by looking at the data table, without doing any calculations?

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| --- | --- |
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1. The table below shows the relationship between the number of photos *x* you take and the amount of memory *y* in megabytes (MB) left on your camera’s memory chip. Is the relationship a linear function? Describe the relationship using words, an equation, and a graph.

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| **Table:**   |  |  | | --- | --- | | **Input:** | **Output:** | | **# of photos, *x*** | **Memory (MB), *y*** | | 0 | 512 | | 1 | 509 | | 2 | 506 | | 3 | 503 | | | **Words:** |
| **Equation:** | **Graph:** | |

*For each table below, determine whether the relationship is a linear function. Then represent the relationship using words, an equation, and a graph.*

|  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- | --- |
| |  |  | | --- | --- | | *x* | *y* | | 0 | 5 | | 1 | 8 | | 2 | 11 | | 3 | 14 | | |  |  | | --- | --- | | *x* | *y* | | 0 |  | | 1 | 2 | | 2 | 7 | | 3 | 12 | | |  |  | | --- | --- | | # of hrs climbing, *x* | Elevation (ft), *y* | | 0 | 1127 | | 1 | 1219 | | 2 | 1311 | | 3 | 1403 | |
| |  |  | | --- | --- | | *x* | *y* | | 0 | 43 | | 1 | 32 | | 2 | 21 | | 3 | 10 | | |  |  | | --- | --- | | # of soup cans, *x* | Total Bill, *y* | | 0 | $52.07 | | 1 | $53.36 | | 2 | $54.65 | | 3 | $55.94 | | |  |  | | --- | --- | | Miles traveled, *x* | Gallons of gas, *y* | | 0 | 11.2 | | 17 | 10.2 | | 34 | 9.2 | | 51 | 8.3 | |

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_\_\_\_\_

HW 89: Graphs of Linear Functions

**Geometry**

1. Kymani has 40 dollars and earns 10 dollars per day. Ahmad has 20 dollars and earns 10 dollars per day.
2. Graphically, show how much more money Kymani will have after 7 days.
3. Create two equations to model the amount of money Kymani and Ahmad have. Be sure to define your variables.
4. Based on your graph will Amhad ever have more money than Kymani? Explain why.
5. A music club membership costs $17.00 and $7.00 per CD. This situation can be modeled by the equation . Make a table of values to represent the function. Then, graph these points.
6. Crossing a long stretch of the Canadian plains, passenger trains maintain a steady speed of 80 mph. At that speed, what distance is covered in half an hour?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *Time, x* | 0 | 1/2 |  | 1 | 2 |  | 3 |
| *Distance, y* |  |  | 60 |  |  | 200 |  |

* 1. How much time is needed to cover 200 miles?
  2. Fill in the missing entries in the table below.
  3. Graph the function.

1. Graph the function that includes the data set, . Write a linear function to represent graph.

Name: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ TP: \_\_\_\_\_\_\_\_\_

HW 89: Graphs of Linear Functions

**Honors Geometry**

1. Kymani has 40 dollars and earns 10 dollars per day. Ahmad has 20 dollars and earns 10 dollars per day.
2. Graphically, show how much more money Kymani will have after 7 days.
3. Create two equations to model the amount of money Kymani and Ahmad have. Be sure to define your variables.
4. Based on your graph will Amhad ever have more money than Kymani? Explain why.
5. A music club membership costs $17.00 and $7.00 per CD. This situation can be modeled by the equation . Make a table of values to represent the function. Then, graph these points.
6. Crossing a long stretch of the Canadian plains, passenger trains maintain a steady speed of 80 mph. At that speed, what distance is covered in half an hour?
   1. How much time is needed to cover 200 miles?

|  |  |  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- | --- | --- |
| *Time, x* | 0 | 1/2 |  | 1 | 2 |  | 3 |
| *Distance, y* |  |  | 60 |  |  | 200 |  |

* 1. Fill in the missing entries in the table below.
  2. Graph the function.

1. Graph the function that includes the data set, . Write a linear function to represent graph.